



# BGA gel flux series IF 8300

INTERFLUX®  
ELECTRONICS N.V.



Technical data IF 8300 series  
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## No-clean, halide free tacky gel flux

### Description:

**Interflux® IF 8300** is a no-clean, halide free and colophony free tacky gel flux with minimal residues after soldering.

The flux provides resin-like rheological properties. It is available in different viscosities for different applications.

The **IF 8300** series can be applied by printing, dispensing or by brush.

The **IF 8300** gel flux series is compatible with both lead-free and lead containing alloys.

The flux exhibits good wetting on virtually all surface finishes including OSP, NiAu, I-Sn...etc.

The residues are minimal and transparent and do not require any cleaning.

## Properties



Products pictured may differ from the product delivered

### Physical and chemical properties:

State	: viscous
Colour	: yellow
Odour	: sweet, mild
Halide content	: none
pH (5% aq.sol)	: 3
IPC/ EN	: RE L0



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### Key advantages:

- Absolutely halogen free
- Colophony free
- Excellent wetting on I-Sn, Ni/Au, OSP, Ag/Pd
- Minimal residue

	IF 8300	IF 8300-4	IF 8300-6
Flash point	158 °C	144 °C	137 °C
Solubility in water	insoluble	insoluble	insoluble
Auto-ignition point	> 370 °C	> 370 °C	> 370 °C
Specific gravity	1,032 g/ml	1,020 g/ml	1,013 g/ml
Viscosity at 20 °C	± 210.000 cPs	± 70.000 cPs	± 25.000 cPs



### Reflow profile

#### General description

Both linear and soak profiles are possible. A soak profile may be used when temperature differences across a board, due to a high mix of components or large board sizes, need to be levelled out. Or when the number of voids, if present because of material combination, need to be decreased.

When soldering in air the profile's peak temperature should occur within a frame time of maximum 300sec or 5 minutes from the profile's starting point.

The correct conveyor speed (m/min) can be calculated by dividing the total chamber length (m) of the heating zones by the desired process time (min). Soldering under nitro-

gen has fewer limitations.

When soldering an assembly in a lead-free solder process, care must be taken not to overheat components especially when using air convection or IR ovens. It is very important to know the temperature limitations of the components used on the board.

To get a good thermal mapping of the board it is advised to use thermocouples and a thermal measuring tool. Measure on small outline, big outline and temperature sensitive components. Measure on the board side near the conveyor chain, in the middle of the board and close to, or on heat sinks.

### Profile recommendations SAC, SnAg and SnCu alloys

#### Preheat

From room temperature until about 200°C at a rate of 1-3°C/s. Higher heating rates could result in component cracking due to absorbed moisture that evaporates too fast.

#### Soak

From 180°C to about 215°C at a rate of 0-1°C/s. In some cases a soak zone is used to level out temperature differences on a board or to reduce voids. A 20-90s soak between 200°C and 215°C is

often being used for this purpose.

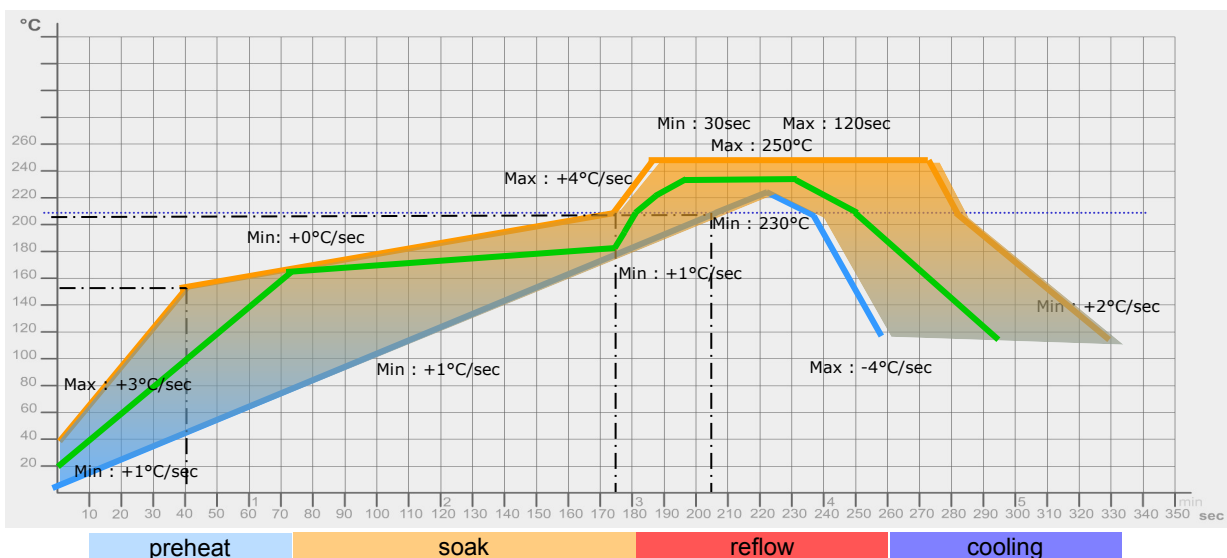
#### Reflow

Peak temperature used is related to component specifications. In general between 235°C and 250°C. The time in liquidus (over melting point of the alloy

used) could be between 45s and 90s.

#### Cooling

Cooling rate around -4°C/s because of differences in thermal expansion of different materials





## Profile recommendations SnPb and SnPbAg alloys

### **Preheat**

From room temperature until about 170°C at a rate of 1-3°C/s.

Higher heating rates could result in component cracking due to absorbed moisture.

### **Soak**

Between about 120°C

and 170°C, a soak zone is often used at a rate of 0°C/s - 1°C/s for 20-90s to level out temperature differences on a board or to reduce voids.

### **Ramp up to reflow**

Maximum 4°C/s be-

cause of differences in thermal expansion of different materials on the PCB

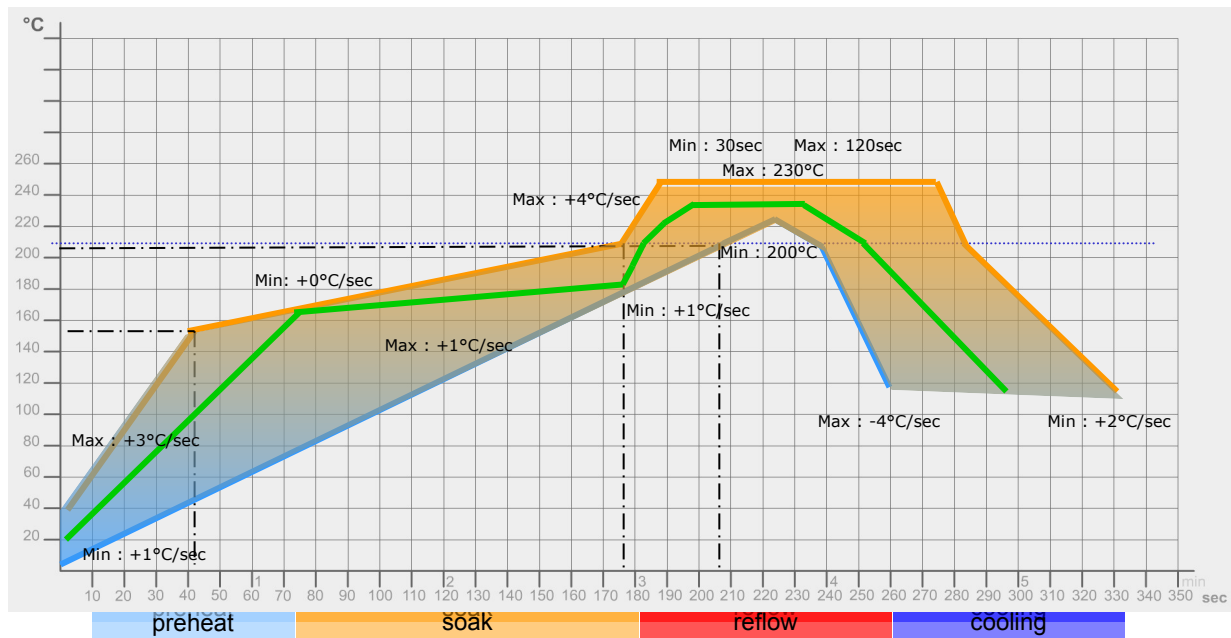
### **Reflow**

Peak temperature used is related to component specifications. In general between 200°C and 230°C.

The time in liquidus (over melting point of the alloy used) could be between 45 seconds and 90 seconds.

### **Cooling**

Cooling rate around -4°C/s because of differences in thermal expansion of different materials





## Test results

conform EN 61190-1-2(2002) and IPC J-STD-004A

Property	Result	Method
<b>Chemical</b>		
copper mirror	<b>pass</b>	J-STD-004A IPC-TM-650 2.3.32
qualitative halide		
silver chromate (Cl, Br)	<b>pass</b>	J-STD-004A IPC-TM-650 2.3.33
acid value by titration	<b>28,9</b>	mg KOH/g
<b>Environmental</b>		
SIR test	<b>pass</b>	J-STD-004A IPC-TM-650 2.6.3.3

## Packaging:

The IF8300-series is available in the following packaging:

### IF8300

- 5cc syringe with and without plunger
- 10 cc syringe with and without plunger
- 30 cc syringe with and without plunger
- 30 cc jar
- 100 cc jar
- 310 cc cartridge

### IF8300-4

30cc jar with brush

### IF8300-6

30cc jar with brush

Trade name : BGA Gel Fluxes IF 8300 series, IF 8300, IF 8300-4, IF 8300-6

D i s c l i m e r

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